

Title (en)
Bleeder powered gating amplifier

Title (de)
Getakteter Spannungsteilerversorgerverstärker

Title (fr)
Amplificateur de modulation alimenté par un diviseur de tension

Publication
EP 1630850 A3 20100421 (EN)

Application
EP 05255183 A 20050823

Priority
US 92533404 A 20040824

Abstract (en)
[origin: EP1630850A2] A gating circuit (328) switches the responsivity of a photomultiplier tube (302) between ON and OFF states by modulating the voltage bias of the one or more of its electrodes. The gating circuit capacitively couples a voltage pulse to the photocathode (304) or other electrode of the photomultiplier tube in response to a low-voltage gating triggering signal (330). The voltage divider network (312) and high-voltage power supply (314) used to statically bias the photomultiplier tube also power the gating circuitry and source the gating voltage pulse, thus circumventing the need for a separate high-voltage power supply. The gating circuit represents a near-inconsequential burden on the power supply, as it draws practically negligible current from the voltage divider network. The electrode gating pulse characteristics, including rise- and fall-times, voltage swing amplitude and duration, can be modified by adjusting resistor and capacitor values and Zener diode characteristics of the gating circuit and voltage divider network. The circuit can also be used to gate related devices such as microchannel plates and image intensifiers.

IPC 8 full level
H01J 43/30 (2006.01)

CPC (source: EP US)
H01J 43/30 (2013.01 - EP US)

Citation (search report)
• [X] JP H06150877 A 19940531 - HAMAMATSU PHOTONICS KK
• [X] US 5051572 A 19910924 - JOSEPH ALAN A [US], et al

Cited by
US11215550B2; US11709126B2; TWI645445B

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)
AL BA HR MK YU

DOCDB simple family (publication)
EP 1630850 A2 20060301; EP 1630850 A3 20100421; JP 2006066394 A 20060309; US 2006043259 A1 20060302; US 7112773 B2 20060926

DOCDB simple family (application)
EP 05255183 A 20050823; JP 2005242450 A 20050824; US 92533404 A 20040824